DOCUMENT RESUME

ED 303 177 IR 052 627

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TITLE Technology Options for Libraries. ERIC Digest.
INSTITUTION ERIC Clearinghouse on Information Resources, Syracuse, N.Y.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO EDO-IR-88-3
PUB DATE May 88
CONTRACT RI88062008
NOTE 3p.
AVAILABLE FROM ERIC Clearinghouse on Information Resources, 030 Huntington Hall, Syracuse University, Syracuse, NY 13244-2340 (free while supply lasts).
PUB TYPE Guides - Non-Classroom Use (055) -- Information Analyses - ERIC Information Analysis Products (071)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Budgets; *Change Strategies; Computer Networks; Information Systems; Information Technology; Library Administration; *Library Automation; *Library Planning; *Library Role; *Library Services; Technological Advancement
IDENTIFIERS ERIC Digests

ABSTRACT

This two-page digest briefly outlines some of the technological trends in updating a library, and briefly discusses the administrative issues and strategies involved. It begins by describing the wholly integrated information environment, which would include: (1) public-access personal and professional communications networks; (2) information utilities and online databases; (3) local area and institution-wide computer networks; (4) multimedia interactive databases based on optical technologies, distributed processing, multi-tasking, artificial intelligence, and hypermedia programs; (5) transparent operating systems and menu-driven software; (6) hardware and software compatibility; (7) resource-sharing systems and policies; and (8) the roles of information resources managers and media specialists. Complex technical, human, and financial issues which the library administrator faces are then discussed. It is recommended that library administrators and librarians who might desire to develop state-of-the-art facilities but need to stay within a budget must plot their strategies by becoming informed; making a detailed needs assessment; establishing the project with a task force and project manager; and being thorough and looking to long range as well as short range planning with room for change. (15 references) (CGD)

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ERIC DIGEST

May 1988

EDO-IR-88-3

TECHNOLOGY OPTIONS FOR LIBRARIES

by Linda Schamber

If anyone is subject to information overload these days, it is the information professional. Library administrators and librarians, inundated with news about new technologies, may be torn between the desire to develop state-of-the-art facilities and the need to stay within a limited budget. Even given an unlimited budget, it is not clear how tomorrow's library could or should look. This digest will outline some of the technological trends, and discuss administrative issues and strategies for updating the library.

The Trends

Over the last few decades, the focus of libraries has shifted from digitization of information, to automation of library functions, to integration of library systems. The current trend toward integration extends beyond local area networks to the concept of a wholly integrated information environment. This environment involves not only the immediate community—city, campus, business—but state, national, and international resources. Integration is the byword at every level of library activity. It is evident in:

- public-access personal and professional communications networks;
- information utilities and online databases;
- local area and institution-wide computer networks;
- multimedia interactive databases based on optical technologies; distributed processing, multi-tasking, artificial intelligence and hypermedia programs;
- transparent operating systems and menu-driven software;
- hardware and software compatibility;
- resource-sharing systems and policies; and
- the roles of information resources managers and media specialists.

None of these concepts is new, but they represent a mind-boggling set of technological options for the library administrator to consider. One way to cope is not to try to envision a vast electronic network, but to look at the ultimate goal of the library: serving the user. For the user, the integrated information network can make life remarkably simple. All he or she has to do is log onto a microcomputer at an institutional workstation (or log on from home), read a menu of applications options, and click a mouse. In almost no time, he or she can be accessing, creating, processing, sending, or storing information. The files can be any size, any format, anywhere. The most important part of this picture is that the user is not really aware of the network structure at all.

The Issues

Of course it's a long haul from most of today's libraries to that ideal vision. For the library administrator, the technical, human, and financial issues are complex.

Technical issues involve matters of access and delivery, or more specifically, choosing among a myriad of hardware and software options. The microcomputer is ubiquitous; with various peripherals and software, it can complement or replace many mainframe functions. With the potential of networking both inside and outside the library, the administrator must also consider the compatibility of systems, in terms both of linkable hardware and of software that can search different databases and facilitate applications such as word processing and desktop publishing. At best, only educated guesses can now be made as to which systems in a very new and competitive market will become standards. In fact, research and development are at such a competitive and formative stage that users themselves are having a great deal of input.

Human issues involve the changing roles and status of library personnel and library patrons. In libraries with end-user workstations, librarians tend to spend more time training patrons in database search skills and dealing with increased expectations for the quantity and quality of information. In academic settings, the librarian is likely to be more involved in curriculum development and in the networking of various computerized instruction programs, such as interactive television. Library personnel generally must learn to deal with computerized indexing, cataloging, and reference systems, online retrieval, accounting and other administrative database management, and interpersonal electronic communication systems. The administrator must not only consider these changes, but also work actively to educate personnel and to elicit their support.

The **financial issues** may be the hardest of all. Initial investments are high. Should the library dive into new technologies now, or wait for continued improvement of products and lowering of prices? It is difficult to to foresee what "bugs" exist in new products, and to predict what enhancements and different products will be available next month. There are at present no guarantees as to consistency of services, compatibility of systems, or continuing support by vendors. Market relationships are changing as vendors combine publishing, distribution, and maintenance responsibilities, and as specialized industries develop. Somehow the library administrator must come up with creative strategies, often tradeoffs, for integrating new with existing technologies and services.

The Strategies

The first step, obviously, is to **become informed.** At least four dozen periodicals cover new technologies in general, and library applications in particular. Articles include management advice, case studies, and product reviews and advertising. Professional organizations sponsor conferences and workshops devoted to specific technological issues. Much cur-

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rent information concerns CD-ROM database services, but the strategies for evaluating and introducing CD-ROM can easily apply to other technologies. Contact vendors directly, and other institutions that are upgrading their systems.

Second, **know thyself.** What are your patrons' needs? How well do you currently meet these needs? Make a detailed needs assessment of your personnel, collections, services, hardware, and space.

Third, **establish the project** with a task force and project manager. Solicit input from library personnel at all levels: the more involved employees are, the more likely they are to support and promote change. Work systematically to create a detailed planning document that covers all aspects of the proposed improvements. Begin by considering requirements and writing objectives. Outline selection criteria for hardware and software. Make cost analyses and devise a timetable for implementation. Consider alternative implementation plans. Outline project testing and evaluation procedures. Address issues such as training, publicity, and security, and user policies such as fees.

Be thorough, looking to long-range as well as short-range planning, with room for change. Cost analyses should include more than prices: consider the terms of database subscriptions, and whether various contracts include delivery, installation, user documentation and training, service, and maintenance. Implementation plans may include multistage introduction of various technologies, hybrid systems, tradeoffs between new and existing systems, and joint programs with other institutions. Special attention should be paid to how pilot projects are set up and evaluations conducted.

Summary

The decision to introduce new technologies has never been simple. It seems that the information professional needs both a cogent overview of the present and a sensible vision of the future in order not to be overwhelmed by the many tempting options. Only through systematic study and planning can he or she be reasonably selective. But whether the decision is to take the plunge or wait and see, the market is developing apace. It is becoming necessary to change just to hold one's position. And obtaining the right technology is not enough: the overall environment must be considered. Penniman (1987) reports that more than 70% of information innovations that fail in the marketplace fail for nontechnical reasons involving marketing, management, capitalization, or organizations themselves. On the other hand, new technologies and media are not replacing, but enhancing, the old, and responses to innovations such as CD-ROM database services have been enthusiastic.

Special Resources

The Online Computer Library Center (OCLC) offers a number of publications—often free—for its member libraries and for independent institutions. Call (800) 848-5878 ext. 4372, or write OCLC, MC 142, 6565 Frantz Road, Dublin, OH 43017. Two publications are of particular interest:

- A detailed report of the results of the 1987 OCLC and Users Council Library Strategic Planning Survey. More than 2,200 libraries responded, with more than 200 submitting strategic plans for internal and external use. Plans cover automation, services, staffing, collections, facilities, and funding. For information call the Users Council Office, OCLC.
- *Communications & Access Planning Guide* is designed for OCLC member libraries to use in evaluating their service, terminal, microcomputer workstation, and access situations with an eye to making decisions on future service and equipment. Included are case studies, a directory of OCLC services, a table of equipment requirements, and worksheets. Guides have been distributed to member libraries and are also available from network offices. Independent institutions can contact the OCLC Library Liaison Officer.

Holibaugh, Ralph. (1987). *Optical discs for storage and access in ARL libraries. SPEC KIT 133.* Washington, DC: Association of Research Libraries, Office of Management Studies. ED 283 534 (microfiche only), or order from ARL, 1527 New Hampshire Ave., NW, Washington, DC 20036 ($20.00). The 128-page kit contains excerpts from technical, planning and evaluation documents contributed by 40 ARL member libraries, summaries of interviews with ARL members, a glossary of terms, a 10-item reading list, and SPEC kit evaluation and order forms.

Recommended periodicals: *Advanced Technology/Libraries, CD-ROM Librarian, Database, Library Hi Tech, Library Hi Tech News, Online, Optical Data Systems, Optical Information Systems, Optical Information Systems Update, Optical Information Systems Update/Library and Information Center Applications,* and *T.H.E. Journal: Technical Horizons in Education*.

References

Bogue, David T. (1987, April). The information challenge and the Film/Computer/Optical Age. *Inform*, 1 (4), 14-16.

Chen, Ching-chih. (1986, December). Libraries in the Information Age: Where are the microcomputer and laser optical disc technologies taking us? *Microcomputers for Information Management*, 3 (4), 253-265.

Co, Francisca. (1987, November). CD-ROM systems: Problems and prospects. *Small Computers in Libraries*, 7 (10), 42-44, 46-49.

Desmarais, Norman. (1987, November-December). Managing a laserbase project. *Optical Information Systems*, 7 (6), 377-380.

Ferguson, Douglas K. (ed.). (1987). Electronic information delivery systems: Reports on five projects sponsored by The Fred Meyer Charitable Trust. *Library High Tech*, 18/5 (2), 65-93.

Hoffman, Ellen. (1988). Managing automation: A process, not a project. *Library Hi Tech*, 21/6 (1), 45-54.

Jackson, Kathy M., King, Evelyn M., & Kellough, Jean. (1988, March). How to organize an extensive laserdisk installation: The Texas A&M experience. *Online*, 12 (2), 51-60.

Mellinger, Michael J. (1987). ATLAS from Data Research Associates: A fully integrated automation system. *Library Hi Tech*, 17/5 (1), 53-58.

Merck, Edwin & Fleit, Linda. (1988, February-March). Is higher education too old for technology? *The Edutech Report*, 3 (11), 1, 4-5; and 3(12), 3, 6-7.

Penniman, W. David. (1987, Summer). Tomorrow's library today. *Special Libraries*, 78 (3), 195-205.

Saviers, Shannon Smith. (1987, Fall). Reflections on CD-ROM: Bridging the gap between technology and purpose. *Special Libraries*, 78 (4), 288-294.

Swan, John. (1988, February 1). Information and madness. *Library Journal*, 113 (2), 25-28.

Tucker, Sandra L., Anders, Vicki, Clark, Katherine E., & Kinyon, William R. (1988, May). How to manage an extensive laserdisk installation: The Texas A&M experience. *Online*, 12 (3), 34-46.

Vandergrift, Kay E., Kemper, Marlyn, Champion, Sandra, & Hannigan, Jane Anne. (1987, August). CD-ROM: An emerging technology. Part 2: Planning and managment strategies. *School Library Journal*, 33 (11), 22-25.

Whelan, Errol A. & Chan, Jeanie. (1988, January-February). Computerizing a high school library. *Library Software Review* 7 (1), 12-16.

This digest was prepared for the ERIC Clearinghouse on Information Resources by Linda Schamber, School of Information Studies, Syracuse University. May 1988.

OERI Office of Educational Research and Improvement OR·CS·LP·FP·IS

This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract no. RI 88062008. The opinions expressed in this report do not necessarilyreflect the positions or policies of OERI or ED.

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